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Short Communication

First report of *Panstrongylus lignarius*, Walker, 1873 (Hemiptera, Reduviidae, Triatominae), in the State of Rondônia, Brazil

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Abstract

Introduction: This study reports, for the first time, the presence of *Panstrongylus lignarius* in the State of Rondonia, Brazil. **Methods:** Specimen of *P. lignarius* was collected from a flat in an urban area of the municipality of Porto Velho, Western Amazon. **Results:** With this finding of *P. lignarius*, the number of Triatominae species in the State of Rondonia has increased from six to seven. **Conclusions:** The occurrence of *P. lignarius* is worrisome, because this species has been found to be naturally infected with *Trypanosoma cruzi* and there has been evidence of its domiciliation capabilities in other countries of South America.

Keywords: Triatominae. *Panstrongylus*. Western Amazon.

Triatomines are hematophagous insects belonging to the family Reduviidae and subfamily Triatominae[1]. They are epidemiologically important because they transmit the protozoan *Trypanosoma cruzi*, the etiologic agent of American trypanosomiasis, also known as Chagas disease[2,3]. In Brazil, there are ten genera of Triatominae, namely, *Alberprosenia*, *Belminus*, *Cavernicola*, *Eratyrus*, *Microtriatoma*, *Panstrongylus*, *Parabelminus*, *Psammolestes*, *Rhodnius*, and *Triatoma*[4]. All these genera are potential vectors for parasites.

In the Brazilian Amazon, at least 20 species of sylvatic triatomines belonging to eight genera have been identified, of which more than 10 are infected with trypanosomatids[1,5,6]. In the State of Rondonia, there have been reports of six triatomine species belonging to three genera, namely, *Rhodnius montenegrensis*[7], *Rhodnius robustus*, *Rhodnius pictipes*, *Rhodnius milesi, Panstrongylus geniculatus*[2,8], and *Eratyrus mucronatus*[6]. The present study is the first report on the presence of *Panstrongylus lignarius*, collected inside a house, in the State of Rondonia.

In November 2016, a male specimen of *P. lignarius* (**Figure 1**) was collected from an apartment (Lat. 8°47′38″S, Long. 63°55′10″W) located in Vila Candelaria neighborhood in the municipality of Porto Velho, Rondonia, Brazil. The apartment was on the second floor of a condominium and had been in existence for about 3 years. The condominium was a few meters away from a forest reserve, with many palm trees. The identification of the triatomine species was done in the Laboratory of Tropical Medicine of *Universidade Federal do Acre* (UFAC), Rio Branco, Acre, Brazil, based on the keys previously described by Lent & Wygodzinsky[9].

The specific epithet "*lignarius*" comes from the Latin word "*lignum*" meaning "*wood,*" a reference to the coloration of the insect being similar to that of wood[10]. *P. lignarius* has an overall light brown color dorsally, ferruginous, dark brown or black ventrally, with dark brown to black markings on the dorsal surface complex present on head, neck, pronotum, scutellum, hemelytra, and connexivum; legs are ferruginous or black, with yellow markings, and the body surface has very short and inconspicuous golden setae[9].

In the same apartment where the *P. lignarius* specimen was collected, 17 other triatomines were also collected over a period of one year; however, all of them belonged to the genus *Rhodnius*. It is believed that the triatomines arrived at the apartment attracted by the lights. These wild Amazonian species are considered opportunistic; they fly from their wild ecotopes to the houses, but do not colonize, most of the time[11].

The forest reserve near the apartment is about 700m from the edge of the Madeira River. It is characterized as an open

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FIGURE 1 - The male individual of *Panstrongylus lignarius* collected from the municipality of Porto Velho, State of Rondonia, Brazil. **Source:** Photo by Dionatas Ulises de Oliveira Meneguetti.

ombrophilous forest containing palms (*Attalea speciosa*) over an area of 4,800m^2, surrounding the apartment complex. The occurrence of bromeliads, birds' nest, rodents, and marsupials, which are reported to be associated with *P. lignarius*, is common in this area[9,10,12]. Beyond this stretch of forest, totally devastated and anthropized area with constructions is present. In this environment, it is possible to visualize the interaction of other animal species, such as mammals, primates, rodents, marsupials, xenarthrans, chiropterans, birds − Passeriformes, Columbiformes, Falconiformes, and Ciconiiformes, various reptiles, amphibians, and other arthropods, which are typical of forests in the Amazon.

The feces of specimen were diluted in saline solution, mounted on microscope slides, and then examined under an optical microscope (1,000× magnification). Flagellates, similar to *T. cruzi*, were identified; however, no molecular analysis was performed to confirm the trypanosomatid species.

In Brazil, besides the present record from the State of Rondonia, *P. lignarius* has been recorded in the States of Amazonas, Maranhão, Pará, Tocantins[9,10,12], Mato Grosso[13], and Amapa[14] (**Figure 2**). The occurrence of this species was also registered in Ecuador, Peru, Guyana, French Guiana, Suriname, and Venezuela[10,12].

The presence of one more triatomine species in the State of Rondonia increases the total number of species found in this area from six to seven. This finding is alarming because in some

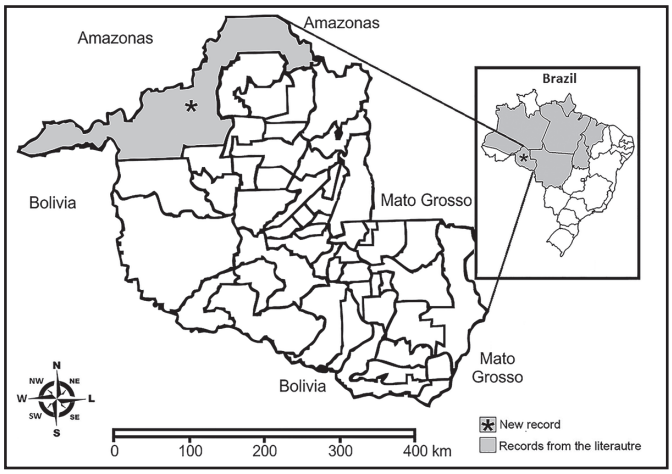

FIGURE 2 - Geographical location of the municipality of Porto Velho, State of Rondonia, from where *Panstrongylus lignarius* was collected, and its location in Brazil[9,10,12-14].

regions of Peru, *P. lignarius* (previously known as *P. herreri*) is considered to be the major cause for the Chagas disease[15], it being the second epidemiologically important species, with the highest domiciliation index[13].

Ethical considerations

The specimens were collected with permission from the *Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis* (IBAMA), permanent license Nr. 52260-1 and Nr. 31954-5.

Conflict of interests

The authors declare that there is no conflict of interest.

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